

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYWIEWVRQAPGQGLEWMGEI
LPGSGTTNYNEKFKGRVTMTRDTSTSTVYMELSSLRSEDTAVYYCARADYYGS
DYVKFDYWGQGTLVTVSS

FIG. 1A

DIQMTQSPSSLSASVGDRVTITCKASQHVGHVTWYQQKPGKAPKLLIYSTSY
RYSGVPSRFSSGSGSGTDFTLTISSLQPEDFATYYCQHFYSYPLTFGGGTKVEIK

FIG. 1B

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYWIEWVRQAPGQGLEWMGE
WLPSGSGTTNYNEKFKGRVTMTRDTSTSTVYMELSSLRSEDTAVYYCARADYY
GSDYVKFDYWGQGTLVTVSS

FIG. 2A

DIQMTQSPSSLSASVGDRVTITCKASQHVGHVTWYQQKPGKAPKLLIYSTSY
RYSGVPSRFSSGSGSGTDFTLTISSLQPEDFATYYCQHFYSYPLTFGGGTKVEIK

FIG. 2B

QVQLVQSGAEVKKPGASVKVSCKASGYTFTYYWIEWVRQAPGQGLEWMGEWL
PGSGTTNYNEKFKGRVTMTRDTSTSTVYMELSSLRSEDTAVYYCARADYYGSD
HVKFDYWGQGTLVTVSS

FIG. 3A

DIQMTQSPSSLSASVGDRVTITCLASQHVGHVTVWYQQKPGKAPKLLIYGTSY
RYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQHFYDYPLTFGGGTKVEIK

FIG. 3B

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYWIEWVRQAPGQGLEWMGE
WLPPGSGTTNYNEKFKGRVTMTRDTSTSTVYMELSSLRSEDTAVYYCARADYY
GSDHVKFDYWGQGTLVTVSS

FIG. 4A

DIQMTQSPSSLSASVGDRVTITCKASQHVGHVTVWYQQKPGKAPKLLIYGTSY
RYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQHFYEYPLTFGGGTKVEIK

FIG. 4B

QVQLVQSGAEVKKPGSSVKVSCKASGGTFSGYWIEWVRQAPGQGLEWMGEI
LPGSGTTNYNEKFKGRVTITADESTSTAYMELSSLRSED~~TAVYYCARADYYGS~~
DYVKFDYWGQGTLVTVSS

FIG. 5A

DIQMTQSPSSLSASVGDRVTITCKASQHVGHVTHVTWYQQKPGKAPKLLIYSTSY
RYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQFYEYPLTFGGGKVEIK

FIG. 5B

QVQLVQSGAEVKKPGSSVKVSCKASGGTFSGYWIEWVRQAPGQGLEWMGEI
LPGSGTTNPNEKFKGRVTITADESTSTAYMELSSLRSED~~TAVYYCARADYYGS~~
DYVKFDYWGQGTLVTVSS

FIG. 6A

DIQMTQSPSSLSASVGDRVTITCKASQHVGHVTHVTWYQQKPGKAPKLLIYSTSY
RYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQFYEYPLTFGGGKVEIK

FIG. 6B

QVQLVQSGAEVKKPGSSVKVSCKASGGTFSGYWIEWVRQAPGQGLEWMGEI
LPGSGTTNYNEKFKGRVTITADESTSTAYMELSSLRSED~~TAVYYCARADYYGS~~
DYVKFDYWGQGTLVTVSS

FIG. 7A

DIQMTQSPSSLSASVGDRVTITCKASQHVGHV~~VTWYQQKPGKAPKLLIYGTSY~~
RYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQFYEYPLTFGGGKVEIK

FIG. 7B

QVQLVQSGAEVKKPGSSVKVSCKASGGTF~~SY~~YWIEWVRQAPGQGLEWMGEI
LPGSGTTNPNEKFKGRVTITADESTSTAYMELSSLRSED~~TAVYYCARADYYGS~~
DYVKFDYWGQGTLVTVSS

FIG. 8A

DIQMTQSPSSLSASVGDRVTITCKASQHVITHV~~VTWYQQKPGKAPKLLIYGTS~~
YSYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQFYEYPLTFGGGKVEIK

FIG. 8B

7F3com-2H2 V_H

1	CAGGTGCAG	CTGGTGCAG	TCTGGGGCT	GAGGTGAAG	AAGCCTGGG
46	TCCTCAGTG	AAGGTTTCC	TGCAAGGCA	TCTGGAGGC	ACCTTCAGC
91	<u>TATTACTGG</u>	<u>ATAGAGTGG</u>	GTGCGACAG	GCCCCTGGA	CAAGGGCTT
136	GAGTGGATG	GGAGAGATT	TTACCTGGA	AGTGGTACT	ACTAACCCG
181	<u>AATGAGAAG</u>	<u>TTCAAGGGC</u>	AGAGTCACC	ATTACCGCG	GACGAATCC
226	ACGAGCACA	GCCTACATG	GAGCTGAGC	AGCCTGAGA	TCTGAGGAC
271	ACGGCCGTG	TATTACTGT	GCGAGAGCG	GATTACTAC	GGTAGTGAT
316	<u>TACGTCAAG</u>	<u>TTTGACTAC</u>	TGGGGCCAA	GGAACCCTG	GTCACCGTC
361	TCCTCA				

FIG. 9A

7F3com-2H2 V_L

1	GACATCCAG	ATGACCCAG	TCTCCATCC	TCCCTGTCT	GCATCTGTA
46	GGAGACAGA	GTCACCATC	ACTTGCAAG	GCAAGTCAG	CATGTGATT
91	<u>ACTCATGTA</u>	<u>ACCTGGTAT</u>	CAGCAGAAA	CCAGGGAAA	GCCCCTAAG
136	CTCCTGATC	TATGGGACA	TCCTACAGC	TACAGTGGG	GTCCCATCA
181	AGGTTCACT	GGCAGTGGA	TATGGGACA	GATTTCACT	CTCACCATC
226	AGCAGTCTG	CAACCTGAA	GATTTTGCA	ACTTATTAC	TGTCAGCAA
271	<u>TTTTACGAG</u>	<u>TATCCTCTC</u>	ACGTTCGGC	GGAGGGACC	AAGGTGGAG
316	ATCAAA				

FIG. 9B

QVQLVQSGAEVKKPGSSVKVSCKASGGTFSGYWIEWVRQAPGQGLEWMGEI
LPGSGTTNPNEKFKGRVTITADESTSTAYMELSSLRSEDTAVYYCARADYYGS
DYVKFDYWGQGTLVTVSS

FIG. 10A

DIQMTQSPSSLSASVGDRVTITCKASQHVGTHVTWYQQKPGKAPKLLIYGTSY
RYSGVPSRFSGSGSGTDFTLTISLQPEDFATYYCQQFYEYPLTFGGGGTKVEIK

FIG. 10B

QVQLVQSGAEVKKPGSSVKVSCKASGGTFSYYWIEWVRQAPGQGLEWMGEI
LPGSGTTNPNEKFKGRVTITADESTSTAYMELSSLRSEDTAVYYCARADYYGS
DYVKFDYWGQGTLVTVSS

FIG. 11A

DIQMTQSPSSLSASVGDRVTITCKASQHVITHVTWYQQKPGKAPKLLIYGTSY
RYSGVPSRFSGSGSGTDFTLTISLQPEDFATYYCQQFYEYPLTFGGGGTKVEIK

FIG. 11B

Accession No. NM_000590

```
1   ccgctgtcaa gatgcttctg gccatggtcc ttacctctgc cctgctcctg tgctccgtgg
61  caggccaggg gtgtccaacc ttggcgggga tcctggacat caacttcctc atcaacaaga
121 tgcaggaaga tccagcttcc aagtgccact gcagtgctaa tgtgaccagt tgtctctggt
181 tgggcattcc ctctgacaac tgcaccagac catgcttcag tgagagactg tctcagatga
241 ccaataccac catgcaaaca agatacccac tgattttcag tcgggtgaaa aaatcagttg
301 aagtactaaa gaacaacaag tgtccatatt tttcctgtga acagccatgc aaccaaacca
361 cggcaggcaa cgcgctgaca tttctgaaga gtcttctgga aattttccag aaagaaaaga
421 tgagagggat gagaggcaag atatgaagat gaaatattat ttatcctatt tattaattt
481 aaaaagcttt ctctttaagt tgctacaatt taaaaatcaa gtaagctact ctaaatacgt
541 atcagttgtg attatttggt taacattgta tgtctttatt ttgaaataaa t
```

FIG. 12

Accession No. A60480

1 mllamvltsa lllcsvgagg cptlagildi nflinkmqed paskchcsan vtscclclgip
61 sdnctrpcfs erlsqmntnt mtryplifs rvkksvevlk nnkcpyfsce qpcnqttagn
121 altflkslle ifqkekrmrgm rgki

Accession No. NP_000584

1 maellasags acswdfprap psfpppaasr gglggtrsfr phrgaesprp grdrdgvrp
61 massrcpapr gcrclpgasl awlgtvllll adwvllrtal prifsllvpt alpllrwav
121 glsrwavlwl gacgvratv gsksenagaq gwlaalkpla aalglalppl alfreliw
181 apgsadstrl lhwgshptaf vvsyaaalpa aalwhklgsi wvpgggggsg npvrrllgcl
241 gsetrrlsif lvlvvlssl gemaipfftgr ltdwilqds adtftrnltl msiltiasav
301 lefvvgdiyn ntmghvhshl qgevgavlr qeteffqqnq tgnimsrvte dtstlsdsls
361 enlsiflwl vrglcllgim lwgsvsltmv tlitlplllf lpkkvgkwyq llevqvresl
421 akssqvaiea lsamptvrsf aneegeaqkf reklqeikt1 nqkeavayav nswttsisgm
481 llkvgilvig gglvtsgavs sgnlvtfvly qmfftqavev llsiyprvqk avgssekife
541 yldrtprcpp sglltphle glvqfvdvsf aypnrpdvlv lqglftlrp gevalvgpn
601 gsgkstvaal lqnlqptgg qlldgkplp qyehrylhrq vaavggepv fgrslqenia
661 ygltkptme eitaaavks gahsfisglp gydtevdeag sqlsggqrqa valaralirk
721 pcvlilddat saldansqlq veqllyespe rysrvllit qhlsivegad hilfleggai
781 reggthqqlm ekkgywamv qapadape

Accession No. AAC17735

1 mvltsalllc svagggcptl agildinfl nkmqedpask chcsanvtsc lclgipsdnc
61 trpcfserls qmntntmqtr yplifsrk svvlknkc pyfsceqpcn qttagnaltf
121 lkslleifqk ekrmrgmrgki

Accession No. NM_002186

```
1 agcagctctg taatgcgctt gtggtttcag atgtggggcgg cctgtgtgaa cctgtcgtgc
61 aaagctcacg tcaccaactg ctgcagttat ctccctgaatc aggctgaggg tctttgctgt
121 gcacccagag atagttaggt gacaaatcac ctccaggttg gggatgcctc agacttgtga
181 tgggactggg cagatgcacg tgggaaggct ggaccttgga gagtgaggcc ctgaggcgag
241 acatgggcac ctggctcctg gcctgcacat gcatctgcac ctgtgtctgc ttgggagtct
301 ctgtcacagg ggaaggacaa gggccaaggt ctagaacctt cacctgcctc accaacaaca
361 ttctcaggat cgattgccac tggctctgcc cagagctggg acagggtcc agccctggc
421 tctctttcac cagcaaccag gctcctggcg gcacacataa gtgcatcttg cggggcagtg
481 agtgcaccgt cgtgtgccg ctgaggcag tgctcgtgcc atctgacaat ttcaccatca
541 ctttccacca ctgcatgtct gggagggagc aggtcagcct ggtggaccgg gagtacctgc
601 cccggagaca cgttaagctg gaccgcctt ctgacttgca gagcaacatc agttctggcc
661 actgcatcct gacctggagc atcagtcctg ccttgaggcc aatgaccaca cttctcagct
721 atgagctggc cttcaagaag caggaagagg cctgggagca ggcccagcac agggatcaca
781 ttgtcggggg gacctggctt atacttgaag cctttgagct ggacctggc tttatccatg
841 agggcaggct gcgtgtccag atggccacac tggaggatga tgtggtagag gaggagcggt
901 atacaggcca gtggagttag tggagccagc ctgtgtgctt ccaggctccc cagagacaag
961 gccctctgat cccacctgg ggggtggccag gcaacaccct tgttgctgtg tccatcttct
1021 tctgtctgac tggcccagc tacctcctgt tcaagctgtc gccagggtg aagagaatct
1081 tctaccagaa cgtgcctct cccagcgtat gcttccagc cctctacagt gtacacaatg
1141 ggaacttcca gacttgatg ggggcccacg gggccgggtg gctgttgagc caggactgtg
1201 ctggcaccct acagggagcc ttggagccct gcgtccagga ggccactgca ctgctcactt
1261 gtggcccagc gcgtccttgg aaatctgtgg ccctggagga ggaacaggag ggccctggga
1321 ccaggctccc ggggaacctg agctcagagg atgtgctgcc agcagggtgt acggagtgga
1381 gggtaeagac gcttgcttat ctgcccagag aggactgggc cccacgtcc ctgactaggg
1441 eggctcccc agactcagag ggcagcagga gcagcagcag cagcagcagc agcaacaaca
1501 acaactactg tgccttgggc tgctatgggg gatggcaect ctcagccctc ccaggaaaca
1561 eacagagctc tgggcccac ccagccctgg cctgtggcct ttcttgtgac catcaggggc
1621 tggagacca gcaaggagtt gcctgggtgc tggctgggtc ctgccagagg cctgggctgc
1681 atgaggacct ccagggcag ttgctccctt ctgtcctcag caaggctcgg tccggacat
1741 tctaggtccc tgactcgcca gatgcacat gtccattttg ggaaaatgga ctgaagtttc
1801 tggagccctt gtctgagact gaacctcctg agaaggggcc cctagcagcg gtcagaggtc
1861 ctgtctggat ggaggctgga ggetcccccc tcaaccctc tgctcagtgc ctgtggggag
1921 cagcctctac cctcagcatc ctggccacaa gttcttctt ccattgtccc ttttctttat
1981 ccctgaectc tctgagaagt ggggtgtggg ctctcagctg ttctgcctc atacccttaa
2041 agggccagcc tgggcccagt ggacacaggt aaggcaccat gaccacctgg tgtgacctct
2101 ctgtgcctta ctgaggcacc tttctagaga ttaaaagggg cttgatggct gttaaaaaaa
2161 aaaaaaaaaa a
```

FIG. 14A

Accession No. NM_176786

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1  agcagctctg taatgcgctt gtggtttcag atgtgggagg cctgtgtgaa cctgtcgtgc
61 aaagctcacg tcaccaactg ctgcagttat ctctgaatc aggctgaggg tctttgctgt
121 gcaccagag atagttgggt gacaaatcac ctccagggtg gggatgcctc agacttgtga
181 tgggactggg cagatgcacg tgggaagtaa ctgctgcaag aacggacaga cactgctgca
241 gagaacttgc cagggtgttt catgctgtgg ctgggtgttc caggctgcac gctccattct
301 aggaaagggg ccctcagccc agtcccttgc aggctggacc ttggagagtg aggccctgag
361 gcgagacatg ggcacctggc tcctggcctg catctgcac tgcacctgtg tctgcttggg
421 agtctctgtc acaggggaag gacaagggcc aaggctctga acctcacct gcctcaccaa
481 caacattctc aggatcgatt gccactggtc tgccccagag ctgggacagg gctccagccc
541 ctggctcctc ttcaccaggc tcctggcggc acacataagt gcattctgag gggcagtgag
601 tgcaccgtcg tgctgccacc tgaggcagtg ctctgccat ctgacaattt caccatcact
661 ttccaccact gcatgtctgg gagggagcag gtcagcctgg tggaccggga gtacctgccc
721 cggagacacg agcaacatca gttctggcca ctgcatctg acctggagca tcagtcctgc
781 cttggagcca atgaccacac ttctcagcta tgagctggcc ttcaagaagc aggaagaggc
841 ctgggagcag gccagacaca gggatcacat tgcgggggtg acctggctta tacttgaagc
901 ctttgagctg gacctgggt ttatccatga ggccaggctg cgtgtccaga tggccacact
961 ggaggatgat gtggtagagg aggagcgtta tacaggccag tggagtgagt ggagccagcc
1021 tgtgtgcttc caggctcccc agagacaagg ccctctgate ccacctggg ggtggccagg
1081 caacaccctt gttgctgtgt ccattcttct cctgctgact ggcccgacct acctcctgtt
1141 caagctgtcg cccagacttg gatggggggc cacggggccg gtgtgctgtt gagccaggac
1201 tgtgtgggca cccacagggt agccttgagg ccctgcgtcc aggaggccac tgcactgctc
1261 acttgtggcc cagcgcgctc ttggaaatct gtggccctgg aggaggaaca ggagggccct
1321 gggaccagge tcccggggaa cctgagctca gaggatgtgc tgccagcagg gtgtacggag
1381 tggagggtac agacgcttgc ctatctgcca caggaggact gggccccac gtccctgact
1441 aggccggetc cccagactc agagggcagc aggagcagca gcagcagcag cagcagcaac
1501 aacaacaact actgtgcctt gggctgctat gggggatggc acctctcagc cctcccagga
1561 aacacacaga gctctgggccc catcccagcc ctggcctgtg gcctttcttg tgaccatcag
1621 ggcctggaga cccagcaagg agttgcctgg gtgtggctg gtcactgcca gaggcctggg
1681 ctgcatgagg acctccagg catgttgctc ccttctgtcc tcageaaggc tcggtcctgg
1741 acattctagg tccctgactc gccagatgca tcatgtccat tttgggaaaa tggactgaag
1801 tttctggagc ccttgtctga gactgaacct cctgagaagg ggcctctagc agcggtcaga
1861 ggtcctgtct ggatggaggc tggaggctcc cccctcaacc cctctgtctc gtgctgttgg
1921 ggagcagcct ctaccctcag catcctggcc acaagttctt ccttccattg tcccttttct
1981 ttatccctga cctctctgag aagtgggggt tggctctctc gctgttctgc cctcatacc
2041 ttaaagggcc agcctgggccc cagtggacac aggtaaggca ccatgaccac ctggtgtgac
2101 ctctctgtgc cttactgagg caccttctca gagattaaaa ggggcttgat ggctgttaaa
2161 aaaaaaaaaa aaaaa

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FIG. 14B

Accession No. NM_000206

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1 gaagagcaag cgccatgttg aagccatcat taccattcac atccctctta ttcctgcagc
61 tgcccctgct gggagtgagg ctgaacacga caattctgac gcccaatggg aatgaagaca
121 ccacagctga tttcttcctg accactatgc ccactgactc cctcagtgtt tccactctgc
181 ccctcccaga gggttcagtg tttgtgttca atgtcgagta catgaattgc acttgggaaca
241 gcagctctga gccccagcct accaacctca ctctgcatta ttggtacaag aactcggata
301 atgataaagt ccagaagtgc agccactatc tattctctga agaaatcact tctggctgtc
361 agttgcaaaa aaaggagatc cacctctacc aaacatttgt tgttcagctc caggacccac
421 gggaaccag gagacaggcc acacagatgc taaaactgca gaatctgggtg atcccctggg
481 ctccagagaa cctaacactt caciaactga gtgaatccca gctagaactg aactggaaca
541 acagattctt gaaccactgt ttggagcact tgggtgcagta ccggactgac tgggaccaca
601 gctgggactga acaatcagtg gattatagac ataagttctc cttgcctagt gtggatgggc
661 agaaacgcta cacgtttcgt gttcggagcc gctttaaccc actctgtgga agtgctcagc
721 attggagtga atggagccac ccaatccact gggggagcaa tacttcaaaa gagaatcctt
781 tcctgtttgc attggaagcc gtggttatct ctggtggctc catgggattg attatcagcc
841 ttctctgtgt gtatttctgg ctggaacgga cgatgccccg aattcccacc ctgaagaacc
901 tagaggatct tgttactgaa taccacggga acttttcggc ctggagtggg gtgtctaagg
961 gactggctga gagtctgcag ccagactaca gtgaacgact ctgcctcgtc agtgagattc
1021 cccaaaagg aggggccctt ggggaggggc ctggggcctc cccatgcaac cagcatagcc
1081 cctactgggc cccccatgt taaccctaa agcctgaaac ctgaacccca atcctctgac
1141 agaagaacc cagggtcctg tagccctaag tggtactaac tttccttcat tcaaccacc
1201 tgcgtctcat actcacctca cccactgtg gctgatttgg aattttgtgc ccccatgtaa
1261 gcaccccttc atttggcatt cccacttga gaattaccct tttgccccga acatgttttt
1321 cttctccctc agtctggccc ttcttttctg caggattctt cctccctccc tcttccctc
1381 ccttcctctt tccatctacc ctccgattgt tctgaaccg atgagaaata aagtttctgt
1441 tgataatcat c

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FIG. 14C

Accession No.: NP_002177

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1 mglgrciweg wtleasealrr dmgtwillaci cictcvclgv svtgegggpr srtftcltnn
61 ilridchwsa pelgggsspw llftsnqapg gthkcilrgs ectvvlppea vlvpsdnfti
121 tfhhcmssgre qvslvdpeyl prrhvkldpp sdlqsnissg hciltwsisp alepmttlls
181 yelafkkqee aweqaqhrdh ivgvtwlile afeldpgfih earlrvqmat leddvveeer
241 ytqqwsewsq pvcfqapqrq gplippwgpw gntlvavsif llltgptyll fklsprvkri
301 fyqnvpspam ffqplysvhn gnfgtwmgah gagvllsqdc agtpggalep cvqeatalit
361 cgparpwksv aleeeqegpg trlpgnlsse dvlpagctew rvqtlaylpq edwaptsltr
421 pappdsegssr sssssssnn nnycalgcyg gwhlsalpgn tqssgpipal acglscdhqg
481 letqqgvawv laghcqrppl hedlqgmllp svlskarswt f

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Accession No.: NP_789743

```

1 mhlgsncckn gqtlqlrtch gvscgwwfq aarsilgkpp saqslagwtl esealrrdmg
61 twllacicic tcvcclgsvst gegggprsrtr ftcltnnilr idchwsapel gggsspwllf
121 trllaahisa scgavsapsc chlrgcschl tispslstta clggsrsaww trstcpgdts
181 nissghcilt wsispalepm ttllsyelaf kkqeeaweqa qhrdhivgt wlileafeld
241 pgfihearlr vqmatleddv veeerytgqw sewsqpyvcf apqrqgplip pwgwpngntlv
301 avsifllltg ptyllfklsr rlgwgtgppv cc

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Accession No.: NP_000197

```

1 mlkpslpfts llflqlpllg vglnttiltp ngnedttadf flttmptdsl svstlplpev
61 qcfvfnveym nctwnsssep qptnltilhyw yknsdndkvq kcshylfsee itsgcqlqkk
121 eihlyqtfvv qlqdprrr qatqmlklqn lvipwapenl tlhklsesql elnwnnrfln
181 holehlvqyr tdwdhswteq svdyrhkfsf psvdgqkryt frvrsrfrnpl cgsaqhwsew
241 shpihwsnt skenpflfal eavvisvgsm gliisllcvy fwlermpri ptlknledlv
301 teyhgnfsaw sgvskglaes lqpdysrlec lvseippkkg algepggasp cnqhsipywap
361 pcytlkpet

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FIG. 15